

ELECTRIC DRAIN CLEANER

Model 46769

SET UP AND OPERATING INSTRUCTIONS



Distributed exclusively by Harbor Freight Tools®.

3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: http://www.harborfreight.com



Read this material before using this product. Failure to do so can result in serious injury. SAVE THIS MANUAL.

Copyright® 2002 by Harbor Freight Tools®. All rights reserved. No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

For technical questions or replacement parts, please call 1-800-444-3353.

Electrical Requirements	115 V, 60 Hz, 1/3 HP
	8.3 Start Up Amps, 4.7 No Load Amps
Power Switch	Steel Toggle Switch
	Normal – Off - Unbind
Overall Dimensions	20" L x 14" W x 20-1/2" H
Drum Dimensions	13" Diameter x 8" Wide
Drain Pipe Capacity	2" to 4" Diameter

1-1/2" U-Cutter, 1-1/4" Side Cutter Blade

Arrow Head, Boring Gimlet,

3/16" Thick Steel Plate

1/2" Diameter x 50' Long

Rubber & PVC

70.2 Pounds

1" & 1-1/4" Square Steel Tubing

SPECIFICATIONS

Note: Due to the environment this tool is used in, it must be powered by a 3 prong grounded GFCI (Ground Fault Circuit Interrupter) protected circuit or outlet.

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Write the product's serial number in the back of the manual near the assembly diagram, or write month and year of purchase if product has no number. Keep this manual and invoice in a safe and dry place for future reference.

SAFETY WARNINGS AND PRECAUTIONS

- 1. **KEEP WORK AREA CLEAN AND DRY.** Cluttered, damp or wet work areas invite injuries.
- 2. **KEEP CHILDREN AWAY FROM WORK AREA.** Do not allow children to handle this product.
- 3. **STORE IDLE EQUIPMENT.** When not in use, tools and equipment should be stored in a dry location to inhibit rust. Always lock up tools and equipment and keep out of reach of children.
- 4. **DO NOT USE THIS PRODUCT IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to use this product.
- 5. INDUSTRIAL APPLICATIONS MUST FOLLOW OSHA REQUIREMENTS.

Rev 01/03; 09/03; 02/06; 03/06

Cutter Accessories

Cable Size/Length

Construction

Weight

- 6. **DO NOT OVERREACH.** Keep proper footing and balance at all times to prevent tripping, falling, back injury, etcetera.
- 7. **STAY ALERT.** Watch what you are doing at all times. Use common sense. Do not use this product when you are tired or distracted from the job at hand.
- 8. **CHECK FOR DAMAGED PARTS.** Before using this product, carefully check that it will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect the operation of this product. Replace or repair damaged or worn parts immediately.
- 9. **REPLACEMENT PARTS AND ACCESSORIES.** When servicing, use only identical replacement parts. Only use accessories intended for use with this product. Approved accessories are available from Harbor Freight Tools.
- 10. **MAINTAIN THIS PRODUCT WITH CARE.** Keep this tool clean and dry for better performance. For your safety, service and maintenance should be performed regularly by a qualified technician.
- 11. **USETHE RIGHT PRODUCT FOR THE RIGHT JOB.** There are certain applications for which this product was designed. Do not use small equipment, tools or attachments to do the work of larger industrial equipment, tools or attachments. Do not use this product for a purpose for which it was not intended.
- 12. **GUARD AGAINST ELECTRIC SHOCK.** Do not submerge the Motor Housing (8) in water or other liquids. Always prevent body contact with grounded surfaces such as pipes, radiators, ranges, refrigerators, etcetera. Do not operate the Electric Drain Cleaner if the operator or machine is standing in water. To comply with the National Electric Code (NFPA70), and to provide additional protection from the risk of electrical shock, the Electric Drain Cleaner must only be connected to a receptacle that is protected by a Ground Fault Circuit Interrupter (GFCI).
- 13. PEOPLE WITH PACEMAKERS SHOULD CONSULT THEIR PHYSICIAN(S) BE-FORE USE. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.
- 14. **REDUCE THE RISK OF FIRE AND/OR EXPLOSION.** Sparks inside the Motor assembly can ignite flammable vapors, liquids, and dust. Do not use the Electric Drain Cleaner in the presence of any flammable, combustible, or explosive substances.
- 15. PREVENT THE CABLE FROM WHIPPING BY PLACING THE DRAIN CLEANER AS CLOSE TO THE DRAIN LINE AS POSSIBLE (A MAXIMUM OF 2 FEET OF CABLE SHOULD BE EXPOSED).
- 16. **DO NOT USETHE ELECTRIC DRAIN CLEANER IN A LINE CONTAINING CHEMI- CAL DRAIN CLEANERS.** Exposure to these chemicals can cause injury to the operator and/or damage the machine.

- 17. **DRESS SAFELY.** Nonskid footwear or safety shoes should be used when working with this product. Do not wear loose clothing or jewelry as they can become caught in moving parts. Wear a protective hair covering to prevent long hair from becoming caught in moving parts. If wearing a long-sleeve shirt, roll sleeves up above elbows.
- 18. **USE EYE, HAND, AND BREATHING PROTECTION.** Wear ANSI-approved splash-resistant safety goggles, NIOSH-approved dust mask/respirator, and heavy-duty LEATHER gloves during use. Use care near the sharp edges of the drum.



USE HEAVY-DUTY <u>LEATHER</u> **GLOVES ONLY.** Cloth gloves can become caught between the rotating coils of the Cable (37), resulting in loss of fingers.

- 19. This product contains or produces a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code § 25249.5, et seq.)
- 20. DO NOT USE ANY EXTENSION CORD ON THIS ITEM.
- 21. **GUARD AGAINST CABLE BREAKAGE.** Before each use, check the cable for kinks or any damage. Never use a damaged cable. Protect the cable from rust by maintaining and lubricating it in accord with the maintenance section and chart near the end of the manual.
- 22. **AVOID DRAIN LINE DAMAGE.** Some city drain line systems may have pipes that are too fragile for this machine. If you are going to probe into unfamiliar plumbing with this machine, first stop and contact your sewer line authority or a local plumber for advice.
- 23. THE WARNINGS AND PRECAUTIONS DISCUSSED INTHIS MANUAL CANNOT COVER ALL POSSIBLE CONDITIONS AND SITUATIONS THAT MAY OCCUR. The operator must understand that common sense and caution are factors that cannot be built into this product, but must be supplied by the operator.

UNPACKING

When unpacking, check to make sure all parts shown on page 8 are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

SET UP

Note: For additional references to the parts listed below, refer to the Parts List and Assembly Diagram near the end of this manual.

Select and Attach the Proper Cutter Tool

Cutter Tool	Application
Arrow Head (38)	Starting tool for cutting and scraping
Boring Gimlet (39)	Starting tool to pierce clogs
1-1/2" U-Cutter (40)	Finishing tool for grease stoppages
1-1/4" Side Cutter Blade (41)	Starting tool to remove loose objects

Note: Four Cutter Tools (38, 39, 40, 41) are included with the Electric Drain Cleaner. It is recommended to use a specific Cutter Tool for a specific application.

Insert the desired Cutter Tool (38, 39, 40, 41) in the female connector located at the end of the Cable (37). Secure the Cutter Tool to the Cable with Round Head Bolt (35) and Flat Washer (36).

Note: It is recommended to start with the Arrow Head (38) or Boring Gimlet (39) Cutter Tool. Once the drainpipe is opened, follow with the 1-1/2" U-Cutter (40) or 1-1/4" Side Cutter Blade (41) which scrape the inside edge of the drainpipe, ensuring a more thorough cleaning job.

OPERATION

Caution: Make sure you are *fully prepared* to start the drain cleaning process prior to plugging the Electric Drain Cleaner into an electrical outlet and are observing all safety warnings.

Note:



Wear heavy-duty <u>leather</u> work gloves, ANSI-approved safety goggles, and NIOSH-approved dust mask/respirator before set up or use

- 1. When ready, plug the Power Cord & Plug (14) into a properly grounded 115 V~ receptacle. Check the GFCI unit before use as follows:
 - The GFCI indicator should be off.
 - b. Press the RESET button: indicator should turn on.
 - c. Press the TEST button: indicator should turn off.
 - d. If indicator responds as described, then press RESET button for use. **DO NOT USE IF GFCI TEST FAILS.**
- Position the Electric Drain Cleaner within two feet of the drain opening. If the machine cannot be positioned within two feet of the drain opening, run the Cable (37) through an appropriate size pipe or guide tube (not included) to prevent the cable from whipping.

REV 02/06

- 3. Pull the Cable (37), with its attached Cutter Tool (38, 39, 40, 41), out from the Center Hub (34), and insert the Cable and Cutter Tool into the drainpipe.
- 4. Prior to stepping on the Foot Switch (13), make sure the Motor Direction Switch (11) is set in the *Normal* position.
- 5. Make sure to keep both hands on the Cable *at all times*, while guiding it with a firm even pressure into the drain pipe.
- 6. If possible, keep a small steady stream of water running into the drain to help lubricate the cutter and wash debris down the drain.
 WARNING! Do not allow water to accumulate in the work area. Water accumulation increases the risk of electric shock or slipping, in addition to causing property damage. Drop cloths, GFCI-protected wet vacuum cleaners, basins, or other methods (none included) may be used to help contain and dispose of water. A certain amount of water will almost always be present when cleaning a drain.
- 7. If an obstruction is reached that the cutter does not immediately bore through:
 - a. Switch Motor Switch (11) to <u>Unbind</u> for a second or two and pull the cable back about a foot or two.
 - b. Switch Motor Switch to *Normal* and press cable back towards the obstruction again for a few seconds. Do not allow excess torque to build up in the cable, otherwise the cable may break. **NOTE**: If the motor gets too hot the overload switch may turn off the motor. Allow the motor to cool down then restart the motor.
 - c. Continue steps a and b until the clog is cleared.
 - d. Larger clogs may require that you periodically bring the cable back to the pipe opening in *Normal* rotation, shut off the machine and unplug it, allow cable to stop spinning, and remove debris from the cutter head before proceeding.
 - e. Cutting heads may need to be changed after penetration to clean out the clog, see instructions on page 5.
- 8. Use the <u>Unbind</u> position on the Motor Direction Switch (11) when having difficulty getting the Cable (37) around tight bends or if the user sees excess torque buildup on the cable. Stop the Drain Cleaner immediately and put it in <u>Unbind</u> for a few rotations to relieve the tension. Do not use the <u>Unbind</u> position for more than a few seconds at a time, as it could cause tangling in the Drum (31) or kinking.
- 9. After pipe is cleared, stop rotation and flush the drain and cable with water. Then push Cable (37) back into Drum (31) with motor in *Normal* rotation until cutter head appears at drain opening. Release the Foot Switch (13), turn the Motor Direction Switch (11) to *Off*, and unplug the Electric Drain Cleaner from its electrical supply source.
- 10. Remove and clean the cutter(s) used and store them in the Toolbox (50). Feed the remaining cable into the drum. Clean, dry, and lubricate the Drain Cleaner and Cable before storage according to the directions in the Inspection, Maintenance, and Cleaning section.

 REV 09/03, 08e

INSPECTION, MAINTENANCE, AND CLEANING

Caution: Always disconnect the Electric Drain Cleaner from its electrical supply source before performing any inspection, maintenance, or cleaning.

Note:



Wear heavy-duty <u>leather</u> work gloves, ANSI-approved safety goggles, and NIOSH-approved dust mask/respirator before maintenance. Use caution near the sharp edges of the drum.

1. Before each use, inspect the general condition of the Electric Drain Cleaner:

Check for broken parts, damaged power cord, cable, and any other condition that may affect its safe operation. If a problem with the Electric Drain Cleaner occurs, immediately discontinue using the tool and have the problem corrected before further use.

Do not use damaged equipment.

2. After each use, clean and lubricate the unit:

- a. Remove and clean the cutter(s) used and store them in the Toolbox (50).
- b. Pour water out of the Drum (31). Clean the outside of the unit and the cable with a damp cloth and a solution of one part chlorine bleach to twenty parts water. Do not use solvents to clean the Electric Drain Cleaner, as damage to the tool may occur. Then, dry completely.
- c. Always keep the Cable (37) well oiled by pouring oil directly into the Drum (31). Then, turn on the Electric Drain Cleaner to rotate the Drum, lubricating the entire Cable. In addition, make sure all other moving parts are adequately lubricated to protect against sand and any other abrasive material.
- d. When storing, keep the Electric Drain Cleaner inside a box or covered with a dry cloth cover in a dry location.

3. Positioning the Belt (21):

Make sure that the Belt rests properly into the groove on the Motor Belt Pulley (16) and sits on the Drum (31) properly, see illustration to the right.

Belt Tensioning: The Belt (21) tension is adjusted automatically by the Motor Seat Spring (6). This spring, which is located inside the tube, continuously pushes the Motor Seat (7) and Motor (8) up during operation. It is unnecessary to adjust the belt tension manually.

4. **Thorough Cable (37) Inspection:**

Lay out and inspect entire length of cable. Look for rust, kinks, unraveling, breaks, smooth spots, or other damage. If any damage is noted, the cable should be replaced.



Belt (21)

5. Cable (37) Replacement:

- a. Remove almost entire length of Cable (37) from Drum (31) until the connection from the short cable attached to the drum to the long Cable (37) is visible.
- b. CAUTION! Cable under tension. Cable will suddenly spring out when released, use discretion when detaching.
 Cautiously remove the Cable Connection Screw (51) from the connection.







Short Drum Cable to Long Cable Connection

- e. Insert the flat connecting end of new Cable into Cable Holder (32) until it comes out in the drum.
- f. Important! Thread the new Cable into the Drum at least one full revolution before trying to connect it to the drum cable. This will make connection much easier and safer.
- g. Hold the ends of both cables together, insert the Cable Connection Screw (51) from the flat side of the connector, and tighten it in place.
- h. Manually feed new cable into place in drum. Then lubricate new cable by pouring oil directly into the Drum (31). Then, turn on the Electric Drain Cleaner to rotate the Drum, lubricating the entire Cable.

6. **Motor Seat Spring (6) inspection:**

- a. Remove the belt from around the Drum. The motor should move upward. If it does not, then the Motor Seat Spring (6) needs replacement.
- b. Press down on the motor. Some force should be required to make the motor move downward. If the motor moves downward easily, then the Motor Seat Spring is too weak to properly tension the belt and should be replaced.
- c. The Motor Seat Spring is installed under pressure and therefore should be installed only by a qualified technician.
- d. After inspection, install the Belt into place around the pulley and the Drum.

MAINTENANCE CHART				
Maintenance Type	Before Use	After Use	Monthly	Every 6 Months
Inspect machine, including Cable end, for damage (see #1, above)	x			
Clean, dry, and lubricate, including oiling the Cable (37) (see #2, above)		x	X	x

Maintenance chart continued on next page.

Maintenance chart continued from previous page.

MAINTENANCE CHART				
Maintenance Type Before Use After Use Monthly Every				Every 6 Months
Check/adjust Belt (21) position (see #3, above)			X	X
Check/replace Belt (21) Check/replace entire Cable (37) (see #4 & #5, above)				x

Problem	Possible Causes	Probable Solutions
Motor will not start Motor cuts off	 Cord not connected. No power at outlet. Motor damaged. GFCI unit on cord tripped. Thermal Protection Switch may have 	Check that cord is plugged in. Check power at outlet. Repair/replace motor. Reset GFCI unit. Allow motor to cool, then restart.
during use.	tripped.	7 more to cool, their restart.
Cable binds, tangles, or kinks outside drum		
Cable tangles within drum, or drum coil collapses	cutter if damaged. 1. Motor operating in unbind direction. 2. Cable being forced down drain. ctrical components of this item should	 Operate motor in normal rotation. Feed cable gradually, allow it to wor at its own pace.

Troubleshooting chart continued on next page.

and GFCI unit are only to be serviced by a certified electrician.

Troubleshooting chart continued from previous page.

TROUBLESHOOTING CHART			
Problem	Possible Causes	Probable Solutions	
Foot switch does not properly control drum rotation	Defective foot switch.	Have qualified technician repair or replace foot switch.	
Motor turns, but drum does not turn	 Belt mounted incorrectly. Belt excessively worn. Motor Seat Spring (6) worn out or broken. Drum Release Rod (25) not in place. Safety Clutch (part of 16) slipping from excess force. 	 Check and correct Belt mounting, see maintenance. Replace Belt. Inspect and repair/replace Motor Seat Spring. Make sure that Drum is mounted properly with drum release rod in place, holding the shaft. Do not force cable down pipe. 	
GFCI unit trips when Foot Switch is pressed	 Cord or cleaner wet. Motor Direction Switch defective. Short circuit in motor. Damaged power cord or GFCI unit. 	 Keep cleaner and cord dry. Repair or replace switch. Repair or replace motor. Electrician should repair or replace. 	
Foot Switch Sticks	Overloading of the motor.	Press the foot switch several times.	
Unbind/Reverse Switch does not work	The centrifugal switch requires the motor to stop before changing direction.	Move the Unbind/Revers switch to "OFF". Wait for the motor to stop completely before switching from "Normal" to "Unbind" or visa versa.	

WARNING! The electrical components of this item should be repaired only by a qualified technician, especially since it is often used under wet circumstances. The power supply system and GFCI unit are only to be serviced by a certified electrician.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

PARTS LIST

Part	Description	Q'ty
1	Main Frame	1
2	End Cup	4
3	Rubber Foot	4
4	Round Head Bolt (M6 x 60)	4
5	Hex Nut (M6)	4
6	Motor Seat Spring	1
7	Motor Seat	1
8*	Motor	1
9	Protection Shield	1
10*	Wire Cover	1
11*	Motor Direction Switch	1
12*	Wire Stopper	1
13*	Foot Switch	1
14*	Power Cord & Plug	1
15	Lock Knob	1
16	Motor Belt Pulley	1
17	Hex Bolt (M8 x 20)	4
18	Spring Washer	4
19	Hex Nut (M8)	4
20	Inner Hex Bolt (M6 x 13)	2
21	V-Belt (A-1118)	1
22	Position Sleeve	1
23	Drum Release Retaining Sleeve	1
24	Drum Release Spring	1
25	Drum Release Rod	1
26	Rear Hub	1

LIG		
Part	Description	Q'ty
27	Bearing	1
28	Shaft	1
29	Bearing	1
30	Nylon Washer	1
31**	Drum	1
32	Cable Holder	1
33	Nylon Washer	2
34	Center Hub	1
35	Round Head Bolt (M6 x 8)	3
36	Flat Washer	3
37	Cable	1
38	Arrow Head	1
39	Boring Gimlet	1
40	U-Cutter (1-1/2")	1
41	Side Cutter Blade (1-1/4")	1
42	Motor/Foot Switch Assembly	1
43	Flat Washer 08	4
44	Hex. Head Bolt (M8 x 15)	5
45	Nut (M8)	5
46	Sleeve Set Screw (M5 x 5)	1
47	Inner Hex Bolt (M8 x 8)	1
48	Nylon Washer	1
49	GFCI	1
50	Tool Box	1
51	Cable Connection Screw	1

^{*} All 6 parts only available as a Motor/Foot Switch Assembly, order part 42.

Record Product's Serial Number Here:

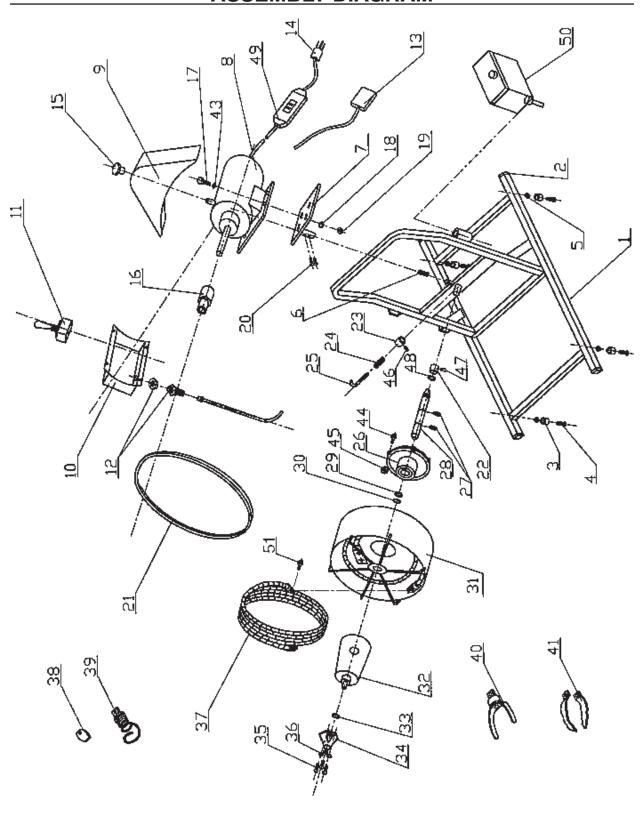
Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

REV 02/04;04/04;05/04;07/04;02/05

^{**} Part 31, Drum, includes riveted on 5 foot cable.

ASSEMBLY DIAGRAM



REV 04/04; 05/04; 07/04; 02/05

LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

3491 Mission Oaks Blvd. • PO Box 6009 • Camarillo, CA 93011 • (800) 444-3353